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Empyema.

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During the last two years empyema has been one of the important surgical conditions that has come up for consideration, due to the frequency of its occurence, and its high mortality. It has attracted considerable attention and the interest manifested in it has been enhanced by the widely different results that have been reported. The rapidly fatal outcome following early operation on a number of patients showed us that we were apparently dealing with a condition somewhat different from what we had ordinarily considered empyema at home and that therefore different treatment was required. Upon investigating more carefully it was found that we were confronted with two different conditions, one an empyema following the usual lobar pnuemonia, and the other secondary pneumonia.

This paper is based on the study of 76 cases that have come to operation in the past seven months period, from October 1 to May 1, 1919, of which seventy cases were secondary infection, following the recent influenza epidemic, and the other six following measles.

Types of Empyema. I believe all empyema should be classified according to the bacteriological findings. In this series the pneumoccocus was found in twenty-three, hemolytic streptococcus in twenty-two, non-hemolytic streptococcus in three, staphylococcus hemo in one, the other cases were not typed, or there was no positive report, the staphylococcus was due to contamination.

In the diagnosis of empyema in this series of cases, a condition was designated as empyema which showed an acute non-tubercular collection of exudate in the pleural cavity. The cases range in character from those with slightly turbid fluid, microscopically found to contain pus cells and organisms in smear or culture, to those with thick yellowish gray pus. There seems to be four definite stages in the pathology of empyema: fibrinous, sero-fibrinous, sero-fibrino-purulent and purulent. The usual early finding for a variable period of about a week is the sero-fibrino-purulent exudate. At autopsy it was a frequent finding to have a sero-fibrino-purulent exudate in one pleural cavity and a fibrinous or sero-fibrinous exudate in the other. It is important to recognize further that, while the course is usually progressive through the various stages toward the end or purulent stage, the fibrinous or sero-fibrinous pleuritis may proceed no further than those stages, the case not being a true empyema. These first two stages are frequently found in cases of pneumonia and great care should be exercised that the cases of sero-fibrinous exudate should not be thought cases of empyema and operated on. Neither should the possibility of a fluid being purulent be lost sight of.

The most common primary empyema, primary so far as the lung condition is concerned, is found following measles, of which in this series we had six cases. The usual early signs, as well as the persisting physical signs, were those of fluid rather

than of consolidation. At autopsy a broncho-pneumonia, however, was found present in one case, it being impossible to state with any degree of assurance whether the empyema or the pneumonia was the older process. The stage of consolidation and the degree of organization of the exudate are usually very definite. However, as to degree we may place the empyema as the primary condition. Further evidence of the priority of this empyema was obtained from the distribution of pneumonia, the consolidation appearing at the periphery as a shell, apparently secondary to an overlying empyema, by an extension infiltration, again completely encircling an interlobar empyema like a very thick orange skin.

The absorption from the fulminant type of empyema is a large element in the seriousness of empyema, complicated or uncomplicated by pneumonia. It is demonstrated in cases of empyema known to be uncomplicated by pneumonia as often the septic condition of the patient is extreme. It cannot, it seems, be fairly said that the serious side of the pneumonia complicated by empyema is due to the pneumonia more than to the empyema. Indeed, the mortality of uncomplicated primary empyema is nearly twice that of pneumonia.

The early recognition of empyema depends on constant attention, alertness and accuracy of observation. Repeated critical examinations with careful notations are of great value, especially when graphically indicated on a chest allowing a quick and easy comparison of findings. Two signs are of the greatest value, dullness and diminished or absent tactile fremitus, diminished breath sounds being next in importance. Dullness of flatness with the sense of resistence on percussion, together with the diminution or absence of tactile fremitus, were the most reliable signs. Careful watching of the cardio-hepatic angle, at times, gives information of importance. Any of the other signs may lead one astray. Bronchial breathing may be heard over fluid; whispered or spoken voice may be increased when fluid is present. The heart may not be displaced even with considerable quantity of fluid. The trachea may be in median line. The fluid level may not shift with change of position. The signs may be looked for in any portion of the chest, as there is no place that the fluid may not accumulate.

The site for thoracentesis is the point where the signs are most definite without regard for location. Fluid has been aspirated from different pockets in the various locations just inside the right nipple, high and low in the axilla, near the sternum, beneath the clavicle, mid scapular region, and at the extreme base. An interlobar fissure must not be overlooked. The pocket formations may be the result of old or new adhesions. It has been possible in several cases in which yellowish gray pus was draining from a chest to find on thoracentesis, only a few centimeters away, a considerable quantity of slightly turbid lemon yellow fluid from another pocket.

The X-Ray has been of very great assistance not only in determining whether consolidation or pleural fluid was present but in locating the lesions with precision in the great majority of cases.

In the last of this series of cases, we did not operate on any case unless an X-Ray had been taken. The importance of this was demonstrated very clearly. We had operated an empyema on the right side and drained about a quart of pus, and some five or six days later, we located another pocket just below the clavicle. This is of invaluable aid in these cases. It is also of great value especially after influenza and pneumonia, assisting you as to whether your pneumonic process has entirely healed or not. An irregular temperature after pneumonia should always lead to careful scrutiny of the patient, a collection of pus not infrequently being found interlobar or in some other less usual location. At other times the temperature may be normal for many days and a pocket of pus by routine careful examination found and the patient thought to have an uncomplicated convalescence.

These cases were all proceeded by aspiration anywhere from a week to twenty-two days. Many of these were aspirated every other day. A patient was not considered fit for operation until his pus had become thick and his temperature had reached somewhere nearly normal. A thoracotomy was done in two cases with a very large pneumothorax, where the pneumothorax gradually progresses and the patient was in a very dangerous condition. In one of these cases thoracotomy was done when he had a pulse of 172 and a temperature of 106 degrees. Owing to the great alarm in this case, it was decided that he stood better chance with the thoracotomy. I cannot lay too much emphasis upon a routine aspiration of every case of empyema, with the exception of a case similar to the one I have just mentioned.

As soon as the diagnosis of empyema was made during the course of pneumonia, aspiration, using the Potain apparatus, was done, as a rule, every alternate day. This was continued until the pus became too thick for aspiration, for twelve to fifteen days. When the pneumonia process had subsided the advisability of operation was considered.

If the pus became too thick for aspiration and it was not considered that the patient's condition warranted operation, intrapleural lavage was practiced at the time of aspiration, in closed circuit, by connecting a bottle containing warm saline solution to the aspirating tubing. In this manner thick pus could be diluted sufficiently to permit aspiration. Care was taken at the time of all aspirations to prevent collapse of the lungs by admission of air. The operation was not performed until twelve to twenty days had elapsed.

All patients were operated upon by local anesthesia given an hour and a half before operation, and repeated again thirty minutes before operation, and a local anesthesia was used at the time of operation. The skin was prepared by ether, alcohol, followed by iodine. The chest was aspirated on the side of operation before the incision was made. A comparatively small incision, large enough to permit an ordinary small size, Collins bone forceps was used. This made the operation rather difficult, but was of great advantage in the post operation treatment, enabling us to keep our dressing air tight. From an inch to an inch and a half of rib was resected, the pleura was punctured with a pair of scissors, the finger was introduced and explored the cavity as thoroughly as possible. It was very common to remove a sero-fibrinous exudate as large as my hand. A specially constructed Brewer tube with a Dakin tube was used. The ordinary Dakin tube extended into the pleural cavity from two to two and one-half inches. An Ewald stomach bulb was used for suction in twenty-four hours. Each patient was fully irrigated one a day, using from a quart to two quarts of Dakin's solution in small tube, allowing it to return to the large Brewer tube. This was continued until all pus was washed out and our solution was returned clear. An irrigation of the pleural cavity of patients should be watched very carefully as the large fibrous exudate may stop up the Brewer tube and the introduction of Dakin's solution to a closed cavity is a rather dangerous procedure. One patient of this series died during irrigation due to a large exudate stopping up the Ewald tube. The patient had an accumulation of pus in a pocket and the introduction of the Dakin's solution in some manner caused a paralysis of the heart and the patient died after a paroxysm of coughing.

After the pleural cavity is thoroughly washed out, a clamp is put on the small tube and the air is excluded from the pleural cavity and the Ewald bulb is left collapsed on the pleura for one hour. At the end of an hour from 100 to 200 cc of Dakin's solution is introduced, allowed to remain an hour. At the end of an hour the Dakin's solution is again removed and the Ewald bulb detached, and vice versa. At the last of this series we were unable to secure any large Brewer tubes, and the largest drain tube that we could find was used in its place and our wound left open, pay-

ing no attention to air. This method was used for four or five days, in a negative pressure for four or five days, and then our tube was changed and a Brewer tube was used in its place. The object of this was to get rid of the large fibrous exudate and as thoroughly free of drainage as possible.

Dakin's solution is of distinct value, both for its antigermicidal properties, as well as solvent action in these cases. It not only dissolves the exudate, but aids the expansion of the lung by quickly removing the heavy plaques of fibrin from the pleural surface and preventing a fibrous thickening of the pleura, and is undoubtedly of great value in dissecting the large fibrinous exudates.

Drainage. This should be as free as possible at the most dependable location, an interior empyema should always be opened in mid-axilla if possible, and the absces broken through. A drainage tube in the anterior chest, will, I believe, prove to be poor surgery. In the last ten cases of this series, no irrigation was used, as we were unable to obtain a fresh Dakin solution.

In summing up this series of cases, I cannot emphasize too strongly the value of the type as an aid in your prognosis. Second, repeated aspirations until the temperature gets as nearly normal as possible, the only condition in which you are not justified in following this procedure is a large progressive pneumothorax. An air bacillus in the tissues in these cases was common. Local anesthesia combined with morphine $\frac{1}{8}$ and hyoscine $\frac{1}{200}$ is preferable. Free drainage, the same as we had for any other cavity, is very important. The use of Dakin's solution is to be highly recommended, providing that you are able to obtain a fresh and pure solution.

Feeding an empyema patient is of great value and they should take at least 2,500 calories each twenty-four hours. The attending physician should continue his services with the surgeon, as complications, such as an extension of pneumonia on the other side, or re-infection of the affected lung are recognized more promptly by the physician, who has observed the patient from the onset.

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Non-Surgical and Surgical Treatment of Prostatic Obstruction of the Bladder

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Read at the Annual Meeting of the Kansas Medical Society held at Ottawa, Kansas, May 7 and 8, 1919.

The progress made in this branch of surgery is quite fully appreciated when we compare the treatment of twenty years ago with that of today. In a text book of surgery, published in 1898 by a prominent surgeon and teacher in this country, we find under the head of prostatic hypertrophy the following: "Treatment chiefly palliative, every source of irritation should be removed, bowels kept open, irritability of the urine diminished by the administration of alkaline diluents, venereal excitement prohibited, in gout and rheumatism judicious diet and medication may arrest or at least retard the progress of the disease in the prostate. In obstinate cases of retention and obstruction the propriety of operative interference beyond catheterization or puncture of the bladder may be entertained in a certain proportion of cases." Concerning prostatectomy this author goes on record by saying: "I have in all these cases declined to attempt any removal of the enlarged organ, but advised permanent supra-pubic drainage."

The position taken by this surgeon at that time was, no doubt, warranted because of the high mortality following prostatectomy.

Removing the obstructing prostate in the primary stage, or after proper preparation of patients suffering from the effects of secondary changes, and a high degree of technical skill of the operator have brought about a marvelous reduction in mortality and a notable increased state of health and usefulness of the patients.

In support of surgical treatment statistics from the most reliable sources show that the per cent of mortality due to catheter life exceeds that of prostatectomy

when done at the proper time by competent operators. J. Bentley Squier in reviewing a series of cases concludes that fifty per cent of unoperated patients will die within five years from the onset of obstructive symptoms where catheter life is not necessary, and that the beginning of catheter life shortens this expectation of life almost fifty per cent and increases the mortality to sixty-six and two-thirds per cent within the shortened period.

In the primary stage the symptoms of urinary obstruction are confined to the bladder and the urinary outlet therefrom such as frequency of urination, slowness of starting the urine, burning, pain and tenesmus. Slowly and progressively there is an increased retention of urine. The persistent presence of urine in the bladder produces secondary changes with the general symptoms of loss of appetite, dryness in the mouth, insomnia, loss of weight, loss of strength, etc.

The theory that the general symptoms depend upon the presence of residual urine in the bladder, and caused by the absorption of a highly concentrated urine has received due recognition. Many observers contend that infection is the chief causative factor. In my judgement the most logical explanation of the causation of the general symptoms is that of kidney insufficiency due to back pressure of the urine. It has been estimated that from 2 to 4 ounces of residual urine is quantity sufficient to cause back pressure on the kidneys and interfere with their function.

It is quite evident that prolonged obstruction from any cause which interferes with bladder evacuation will at first cause the bladder to contract upon its contents. This constant pressure against the orifices of the ureters will eventually result in dilatation of the ureters extending back to the pelves of the kidneys. Just what changes are brought about within the kidney as a result of pressure in its pelvis are probably not definitely understood. A consideration of the anatomy of the kidney suggests first, that the pressure in the pelvis interferes with the circulation of the blood through the organ, since the afferent and efferent vessels are in such close proximity to the pelvis. Second, compression of renal tissue and disarrangement of the urinary tubules.

Infection is a very important factor in connection with the secondary changes taking place in patients suffering from the effects of obstruction of the bladder. It is extremely difficult to estimate the degree of infection as well as the degree of immunity possessed by the patient. Cystitis and a very purulent urine might suggest a very grave prognosis when the fact of the matter is many of these patients are better surgical risks because of established immunity. Some of these patients are apparently free from infection when we begin to relieve them of residual urine by catheterization, but in a short time there is a development of chills, fever and other evidences of sepsis notwithstanding a very close adherence to surgical cleanliness in the introduction of the catheter. We have reasoned that the infection was introduced, and have blamed ourselves for faulty technic, but now we find consolation in the following statement of Judd: "Many of these patients may have more or less chronic infection of the kidney from the beginning of urinary symptoms, but the kidney does not continuously pass organisms into the urine. An area of infection may be walled off so that the urine is free from pus and organisms except at intervals when the area opens up and discharges into the pelvis. Withdrawing of urine brings about changes in the kidney increasing infection and liberating pus."

Treatment. The obstruction should be removed during the primary stage whenever possible. Patients who have carried residual urine sufficiently long to cause secondary changes are entitled to preparatory treatment before operation. They should be put to bed on a liquid diet, chiefly milk, buttermilk, and large quantities of water and lemonade. Catheterize two or three times daily at first then leave the catheter in the bladder for continuous drainage. If catheterization is impossible,

suprapubic puncture of the bladder must be resorted to in order to establish drainage. As a rule, the withdrawal of urine precipitates a definite reaction by increasing the general symptoms of weakness, irritability, insomnia, anorexia etc. The blood pressure drops and the specific gravity of the urine falls. Chills, fever, and pus in the urine may show up during the reaction. This treatment should be continued until these symptoms subside or until there is a general improvement of the patient.

In estimating the ability of the patient to stand the operation of removing the obstruction, various laboratory tests might be employed to determine the retention of urinary solids in the blood, and the excreted solids in the urine, as well as the functional capacity of the kidneys to eliminate dyes. It is well to be on our guard so as not to overestimate the value of the laboratory findings. After all I believe the clinical tests of general physical improvement are of greater value in determining the time for operation.

Operation. The transvesical or suprapubic method seems to hold the vantage ground principally because it is easier to accomplish, it affords an opportunity to inspect the bladder for calculi and neoplasms, positively avoiding perineal fistulae, and the assurance of better functional results. After irrigating the bladder quite thoroughly, leave solution in the bladder to keep it moderately distended. Under general or local anaesthesia make a long suprapubic median line incision through the skin and fascia, separate recti muscles, free the fundus of the bladder from fat, push peritoneum away from bladder, swab prevesical space with tr. benzoin co. Open bladder high on fundus, insinuate index finger into urethral opening, break through capsule and enucleate the gland. Attend to excessive hemorrhage by suturing or packing cavity with gauze. Provide bladder drainage by a rubber tube the size of a large catheter or larger. A small drainage tube in the prevesical space is provided for and the wound closed.

Patient put to bed should be kept warm and dry. Saline solution per rectum. Bladder irrigation frequently through drainage tube to wash out blood clots. An ordinary glass syringe using 2 or 3 ounces sterile water is usually sufficient. Give patient water as soon as he awakens from the anaesthetic and calls for it. The following day liquid diet—milk, buttermilk, fruit juices, lemonades. After the second or third day general diet.

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Fractures of Femur.

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Read at the Annual Meeting of the Kansas Medical Society held at Ottawa, Kansas, May 7 and 8, 1919.

I do not intend to bring out any startling innovations in this paper but rather to review our knowledge of the subject with the object of making better diagnosis and instituting better treatment in many cases.

Starting with the neck of the femur, we know that most of these cases occur in elderly people, though they occur not infrequently in middle age and sometimes in childhood, where they may be of the green stick variety, may be unrecognized and later lead to the development of coxa vara.

A point of importance in elderly persons is that fracture may be caused by very slight violence, often by a trip over carpet or some object and subsequent fall to the floor. In fact, probably the fall is often caused by the fracture, which occurs before the patient strikes the floor.

Another thing of great importance is whether impaction has occurred or not, as impacted fractures unite much more often than the unimpacted variety. Those occuring near the trochanter are likely to be impacted, those nearer the head unimpacted.

Symptoms: There is usually great pain on moving or attempting to move the leg. The leg lies almost absolutely helpless and the patient can not raise the heel from the bed. The foot usually lies in a position of eversion and the toes can not be inverted, though in impacted cases the patient can sometimes invert the foot somewhat.

Shortening to some extent is nearly always present though at first it may be slight, and in cases not diagnosed the medical attendant may be astonished to find that in 4 or 5 days the shortening has increased to 2 or 3 inches.

In most cases there is a fullness in Scarpa's triangle and the fascia above the trochanter will be found much more lax than on the uninjured side.

The trochanter will be found to have ascended, and two lines are in common use to determine this point; namely, Bryant's line which is drawn from the anterior iliad spine vertically downward to the bed, and the distance from this line to the top of the trochanter noted on both sides; the other, Nelaton's line which is drawn from the anterior iliac spine to the tuberosity of the ischium and crosses the tip of the great trochanter when the thigh is slightly flexed.

If the fracture is not impacted, crepitus can be obtained by traction or rotating the leg. However, crepitus is the last thing to be looked for and ordinarily it is unwise to attempt to get it at all on account of breaking up an impaction and thus decreasing to a great extent, especially in elderly patients, the probability of obtaining union.

Measurement should be made from the anterior iliac spine to the tip of the internal malleolus. A slight difference in the length of the limbs is not uncommon and this should be taken in account, and in case of shortening the tibiae should also be measured and if of the same length it may be considered that the limbs are symmetrical and any shortening is indicative of some lesion of the thigh or hip.

In rare cases the fracture may occur in such a manner that impaction takes place in the anterior aspect of the neck and inversion of the foot takes place. In these cases one might consider a dislocation of head of the femur on the dorsum of the ilium, but in the latter case the head can be felt in its abnormal position, and the whole history and other signs will be different.

Lastly we have an invaluable aid in diagnosis in the X-ray and we should always avail ourselves of its help whenever possible. We can ascertain the seat and extent of fracture, amount of displacement and have some idea as to amount of impaction. We will also be able to diagnose the green stick variety in children where the diagnosis is often missed, and the child allowed to develop coxa vara with permanently lime hip with restrictions of movement, and all because of failure in diagnosis and proper treatment. In elderly patients who are unable to use the limb after even a slight injury, it is best to consider a fracture present unless disproved by the X-ray.

There is considerable danger to life in fractures of neck of the femur because so many of them occur in feeble elderly people. Shock kills a few in two or three days, then hypostatic pneumonia may develop a little later, and some live several weeks and finally die of exhaustion. Union is most likely to occur in the impacted cases especially those near or extending into the trochanter. Union, of course, is more common in the more robust and younger patients. The rule though, is to have some shortening, more or less limp, and some restriction of movements. Some lives are made miserable by chronic rheumatism which prevents use of a hip which otherwise might do fairly well.

Some cases get along even with ununited fractures. A number of cases are recorded where by use of a bone peg, union has taken place and a useful limb secured, even weeks or months after receipt of the injury. This result is more likely to be secured in the younger more robust class of patients.

Treatment: The general treatment is of considerable importance. The patient should be made as comfortable as possible, and a well trained, capable, tactful nurse is a blessing.

Bed sores develop easily and should be guarded against by careful attention to bedding, keeping parts clean with soap and water followed by alcohol and dusted with some bland powder, as equal parts of

starch and zinc oxide or stearate of zinc.

Elderly people should be encouraged to move about in bed a little and even elevated from time to time on a bed rest.

If signs of hypostatic pneumonia show in the least it is sometimes wise to discard all apparatus and use the ordinary measures common in this condition, as it is absurb to use the most scientific methods if the patient dies in a few days because of such treatment.

There are a number of methods used in the treatment of fracture of neck of the femur and it is obviously impossible in a paper such as this to discuss all of them in detail. It is important, though to remember that in the use of any method the degree of success obtained is in direct proportion to the skill with which each is used, and the amount of unremitting care and attention given to the individual case. Any method used in a half hearted, careless manner will give a percentage largely of very poor results.

Another very important point is that unless one is treating this class of cases all the time it is wise to thoroughly read up on the case in hand, as the average doctor gets lamentably ignorant as regards both diagnosis and treatment, especially if he only sees a case once or twice a year.

The great majority of cases both past and present are treated by the simple traction method, and fairly good average results are obtained in the favorable impacted cases.

It is important to have a firm smooth bed which does not sag beneath the patient and this can be obtained in country practice by placing boards under the mattress from side to side. Eversion should be corrected as far as possible by gentle means, always bearing in mind that too forcible measures to correct eversion may result in breaking up an existing impaction, with resulting nonunion.

Long sand bags placed on each side of the leg and thigh give a feeling of security, prevent any sudden side movement and aid in correcting eversion. Treating the leg in a more or less everted position presupposes that recovery will take place with the limb permanently in this position.

The amount of weight used varies according to different authors from 5 to 20 pounds. Enough should be used to steady the leg and prevent any further shortening from taking place. Leudder advocates a strap made of duck about 4 or 5 inches wide applied about the hip and pelvis. Two pads of leather are stitched to this pad about 4 or 5 inches apart and should rest behind and in front of the great trochanter. The strap exerts gentle direct pressure on the trochanter and the posterior pad helps support the femur and prevents a falling outward and helps to correct eversion.

Another method used considerably is known as the Maxwell method and has in addition to the longitudinal traction, a continuous lateral traction, which is also applied so as to help correct eversion.

First the fracture is reduced by flexing the thigh on the body while an assistant makes outward traction on the upper part of the thigh. The outward traction is maintained while the surgeon makes longitudinal traction and extends the thigh until it lies longitudinally on the bed. The two tractions are maintained until the weights are applied. From 20 to 30 pounds longitudinal pull is used and about two-thirds of that for the lateral pull. Warbasse says that no treatment is used that compares with this method. It makes the treatment simple and comfortable, union may be expected in every case. The aged need not be confined more than four weeks after which they may sit up most of the time.

The patient in most cases is allowed up in 6 or 8 weeks, but according to good authority should not bear weight on the injured hip even with the assistance of crutches, for about 4 or 6 months.

Many surgeons use the Thomas fixation method by means of the Thomas hip splint and obtain good results.

Whitman teaches that the proper treatment of most cases of fracture of the neck of the femur is to dress the leg in marked adbuction by means of an extensive plaster

of Paris splint. In young adults he believes it wise to break up any existing impaction, in elderly patients treat impaction according to condition of patient. He states the abducted position adjusts and fixes the fragments at the same time.

The last method I shall speak of is that by pegging the fragments with a bone peg. Nails are not used very much at present, needless to say considerable experience and armamentarium are necessary in the use of the bone peg.

Fractures of the shaft of the Femur: These are often difficult cases to treat and get a good result. These fractures are generally oblique and the contraction of the large thigh muscles can rarely be completely overcome, and consequently, there is nearly always some shortening and bony distortion. Shortening of an inch or less is considered by many a very good result. Even with open operation the overlapping of the bone ends can rarely be completely overcome.

The weight used should be about all the patient will bear. Authorities differ on this point, one stating a pound each year up to twenty pounds, another says 15 or 20 pounds is generally enough, and another uses enough to overcome shortening up to 30 or 40 pounds, and even 60 pounds in some cases.

Fractures in the upper third of the femur are likely to be especially difficult to treat because of abduction and flexion of the upper fragment. The abduction can be met partly by splint pressure and partly by placing the whole leg in the abducted position and applying the extension while in this position.

The flexion is treated by the pressure of an anterior splint or the use of a single or double inclined plane or in the case of children by using vertical suspension.

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Excerpts—By the Prodigal

"MEDICINE HAS GONE OUT OF STYLE"

So says Captain Hughes Walker, U. S. A., of the Surgeon General's Office, Washington, D. C., in the Ladies Home Journal for May, 1919.

In a previous number of this Journal, K. M. S., the Prodigal said: "In ye olden times, Medical Journals published little therapeutic helps, reminders, or memory refreshers for the general practitioner more frequently than they do now."

The Prodigal finds himself in a class with the four day old pups that a boy was selling at a Democratic rally as Democratic pups; and a month later was selling of the same litter of pups as Republican pups, and gave as a reason for the political change, "They had got their eyes open."

Dr. Mearns has put a cinch on the Prodigal's optics with good results. His periscopic mental sight has been visioned more acutely and he sees more clearly why therapeutic suggestions are not so common as "In Ye Olden Time," because "Medicine has gone out of style," and because the doctor of today knows so much less than the doctor knew forty years ago.

Forty years ago, figuratively speaking, there were forty medicines for each disease. Today there are forty diseases for each known remedy. The history of therapeutics is not unlike the history of theology. The ancients were polytheists in their beliefs. They had many gods to cure their spiritual infirmities. The theology now, that sticks and has the punch and is worth while is monotheistic—knows one God only. In medicine it is monotherapy that gets results.

"Medicine gone out of style," does not mean that medicine is obsolete any more than that God is obsolete. It does mean that medicine is better understood, has a sounder basis and a surer and more rational foundation, that reason is beginning to control and to take the place of ignorance, superstition—the buckeye and the rabbit foot. It means that the medical man has more knowledge and is applying wisdom in selecting from the mass of facts handed down from the ages for his use. Dr. Mearns' paper is titled "Doin' Nothing For Me." One kicker case to which the doctor calls attention was a fracture of the spine. "The patient complained because 'Nothin' dun for him.' There was no medicine

given him." The doctor said, "That was right. During the three months there was no record of a single prescription." The reason is simple; he had no need of drugs. There is no drug that will cure a fractured backbone, nor are there any that will cure pneumonia, tuberculosis, rheumatism, sciatica, heartache, homesickness or three quarters of the other ills flesh is heir to. If there were such, doctors would use them.

"Medicine has gone out of style." Nothing is more significant in the modern treatment of disease than that. A walk through the miles and miles of army hospital wards shows no array of bottles and spoons beside each bed. Our sick men are not getting a pill or tablespoonful of something bitter each hour, at which some of them wonder and sometimes feel neglected. No reputable physician nowadays gives medicine indiscriminately to every patient who applies. The modern doctor has lost his old time faith in drugs, for the simple reason that they do not always do what is claimed for them. We have found out that they frequently do more harm than good. A drug for instance while 'curing' a patient in the head may do permanent injury somewhere else. To take some drugs is like blowing up a city to put out a fire, or amputating a hand to save the trouble of washing it. The failure is not in or with the drug but in using the wrong drug in the right place. A doctor may be loaded down with facts, know the pharmacopoeia from a to z, but lack wisdom to select the right drug or to apply it properly or at the right time. And the crux of the matter is that a physician must realize his limitations as well as his possibilities. If he magnify the latter at the expense of the former he becomes a dangerous crank or a charlatan, while if he magnify the former at the expense of the latter, he becomes a pussyfooted nonentity.

There are but a few known medical remedies for disease. This was not believed a generation ago as a rule. The better class of the older physicians began limiting their use of drugs and avoiding shotgun prescriptions a quarter of a century ago, but they had not reached the positive stage of advocating and enforcing their teaching; that which they vaguely believed and actually practiced.

"Medicine has gone out of style" for the up to date medical man who can stand the financial pressure or has an established prestige. But what is to become of the average doctor during the transitional stage which is upon us, during the educational period of enlightenment of the people, while the drug habits are being broken up, the weaning period? The old hymn reads: "I must fight if I would win. Increase my courage, Lord." But it's hard to increase the courage of a collapsed viscera or a slim pocketbook, however willing the spirit of the Shylock tabernacle of clay.

It is true that the indiscriminate prescribing of drugs by the physician is on the wane. As his knowledge increases he uses a newer, more rational and efficient treatment. As he eliminates drugs he substitutes physical manipulation and his mental personality. Disease means not at ease. The physician has learned that dynamic bodily mechanics will cure a percentage of bodily defects. That psychical contagion or the transference of functional health will relieve others. Hence the dual man is put at ease physically and mentally. This treatment in addition to dietetics and hygiene covers the practice of medicine with but few drugs.

The younger generation of physicians have caught on already as noted by the following class of persons and schools of medicine recognized by law to practice and teach medicine in the state of California, vis. Physicans and Surgeons, Osteopaths, Drugless Practitioners, Chiropodists, and Midwives. The naturopaths and hydropaths have a free hand. A chiropractor was arrested and tried in a court in California for advertising and holding himself out as practicing a mode or system of treatment. The jury failed to convict him. The case served to advertise and increase the clientel of the Practor.

Advertising is turning the mind toward,

and the way to turn the mind of the public toward an ism is to fight it. All isms have a grain of truth in them. The regularly educated physician is prepared to extract the essence of truth out of the ism or pathy without using the camouflage, and he must do it and use it or he will be lined up soon with the once overs.

But there is no salvation for the stiff necked, foreordained to all eternity, inerrant orthodox in medicine. His days are numbered and nature will soon time him and when too late he will see his error. But he will get to climb in over the divide, if by the skin of his teeth, although his works may follow him.—Selah.

The cigarette has been started on the toboggan in the school of agriculture of Minnesota. 280 of the 397 students decided to ban the cigarette. All of the students have agreed to live up to the decision. Giving up and getting rid of our ideal esthetic habits is as great an effort and causes us as much pleasure as pulling our eye teeth.

"Medicine has its personal equation. The classroom and the clinic are the only foundation stones, and the algebraic 'x' of medical practice indicates that any means are justifiable to save life or to render living worth while."—Pharmacal Ad.

Skin grafting, according to Lexer and Davis, from others than the patient are, practically, never permanent.

Scientists are trying to locate the hunger germ. The sign is right, in the Zodiac.

There are so many airplanes in Southern California that the people are getting their tonsils sunburnt.

The Atlantic City Meeting

By ELVENOR ERNEST, M.D.

The American Medical Association meeting in Atlantic City was very successful in point of interest and number in attendance. The registration of approximately five thousand exceeded expectations. Hotel accomodations were at a premium and meeting places were overcrowded. The absence of uniforms was very marked, a very decided contrast to the meeting in Chicago last year.

The evening social gatherings, especially the reception to the President and foreign guests on Thursday evening, were unusually attractive, being held on the beautiful water front at Steel and Garden Piers. These foreign guests included men and women from France, England, Belgium, Italy, Scotland, Australia, Japan, Hawaii, Cuba, China, Greece, Sweden, Norway, India, Canada, Peru, Chile and Brazil, and had been entertained in New York City the week previous. At the banquet given in their honor at the Hotel Commodore, Sir St. Clair Thomson and Surgeon General Melis of the Belgian Army were received with particular favor and proved to be most witty and entertaining, sharing honors with our esteemed and popular Dr. Lambert. Sir Thomson reminded us, in responding to a toast, that "The English Hen is very proud of having hatched the American Eagle."

The two days previous to the regular meeting in Atlantic City were filled to overflowing with other annual meetings touching medical interests, including the Medical Women's National Association, whose admittance requirement is membership in the American Medical Association. This organization is social rather than scientific, its contribution to the war has been the American Women's Hospitals, still serving in France, Serbia and the near East, to which one hundred and twenty-five thousand dollars have been given and two hundred and fifty thousand dollars additional pledged. The new work for the coming year contemplates a vigorous campaign of health propaganda following the Government plan. The meetings of the American Public Health Association were very popular, in fact preventive medicine seemed to be the dominating theme during the entire A. M. A. program.

A large number of interesting and beau-

tiful moving picture films were furnished by the Medical Department of the Army, The Bureau of Medicine and Surgery of the Navy and the United States Public Health Service, the latter showing two especially good pictures, "Open Your Eyes" and "Fit to Win." In addition a large number of private exhibits, including Dr. Baldwin Lucke's influenza microphotographs, Dr. Fenton B. Turck's experimental research plates and photographs, those by the A. M. A. Propaganda Department and many scientific subjects from various New York hospitals.

Perhaps at no other meeting have we had such a large and well arranged and attractive lot of medical exhibits. The commodious Steel Pier housed most of them. The Army exhibits, particularly the field X-ray, were popular. They were all good. War surgery, reconstruction work, industrial medicine and influenza divided honors, the latter finally elicited the newspaper comment: "Influenza still a Mystery to the World of Medicine."

The next meeting is to be held in New Orleans in April or May, 1920.

Genital Defects

H. Goodman, Camp Las Casa, Porto Rico (Journal A. M. A., March 29, 1919), has studied the genital and venereal conditions among the 12,000 troops in Porto Rico. He quotes from W. W. King a description of the climatic and racial conditions, as an introduction. Besides the various congenital and acquired defects, of which hydrocele seems to be the most common and almost an insular characteristic, he notices some of the more formidable disease conditions that are met with, such as frambesia, of which two cases were found, and the venereal diseases. One hundred and fifty-three cases of acute or subacute urethritis were found, some of which he suggests may have been acquired purposely to avoid service, when it became known that it was a disqualification for officers in the training camp. Urethritis has, in the island, an extended period of virulence, owing to the universal practice of self-treatment, the milk of the cocoanut being considered as specific. There were 241 cases of chronic urethritis in the camp, and these sometimes underwent acute exacerbation after physical exercise or drill, if not treated. In only occasional cases was there posterior urethral involvement. Syphilis seems to differ in no way in its manifestations from that found in the United States. The total number of routine examinations of enlisted men was 211, of which 20 per cent gave positive Wassermanns. In twenty-two civilians, six, or 27 per cent, were positive. Details of treatment of venereal disease are given. After three months in camp during which the number of enlisted men rose from 250 to 12,000, only nine new cases of venereal disease were acquired. Police measures in the outside towns are described, and the data of venereal diseases among prostitutes are published and show what the results might have been without the isolating measures adopted. The infection seems to be very general among the disreputable classes, especially in the towns. More comprehensive reports of the examinations will be given later.

Armour Plant Open to Visitors

After being closed for two years due to government restrictions prohibiting visitors from the stockyards because of the war, Armour and Company's huge plant in the Chicago Stockyards is again open to visitors, an announcement from the company states.

This announcement will prove of interest to not only people who intend to visit Chicago some time this summer but to many others as well because, the announcement says, "preparations are being made by Armour and Company to open their other plants in various parts of the country so that a trip through a packing plant which is an educational one, will not just be limited to Chicagoans or visitors to Chicago, but to people in fifteen different parts of the United States, where Armour and Company have packing plants. Uniformed guides are in attendance to explain the various interesting things to be seen."

THE JOURNAL
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W. E. McVEY, M.D. - - Editor

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The Worst Is Yet to Come?

When the anti-narcotic law was passed physicians were given an exclusive privilege—that is, they were permitted to prescribe narcotics to their patients and permitted to purchase narcotics under certain forms and regulations. For this privilege they were required to pay an annual license fee of one dollar.

In the revision of the laws, for some reason, the annual license fee was raised to three dollars, beginning with January 1, 1919. Although they had paid one dollar each for their licenses for the year ending June 30, 1919, one dollar and fifty cents additional was collected for the half year, from January 1 to June 30, 1919, or at the rate of four dollars a year.

This item of fifty cents is a small matter to the individual physician, but amounts in the aggregate to about $70,000 which the government has acquired by some technical interpretation of the law, evidently not intended by those who framed it.

Presumably one dollar should be sufficient to pay the expense of issuing a license, and few of us are able to explain the purpose of the additional tax. Is it a penalty? Is it to provide funds for the prosecution of violators of the law? Or is it for revenue? The privilege is not productive of revenue to the physician who holds it, if he uses it in accordance with the law. If he abuse the privilege, there are laws for his prosecution and punishment.

While physicians may be regarded as having an exclusive privilege in the use of narcotics, they are also acting as servants of the government, assisting in the administration of the anti-narcotic law. It is a service, however, which the authorities, under whose jurisdiction these matters fall, seem to feel it is their duty to make as burdensome as the most technical interpretation of those laws will permit. A recent ruling of the commissioner has recently been mailed to the physicians of Kansas by the collector of internal revenue. It reads as follows:

"Wholesalers or manufacturers only can sell narcotics to registered persons and must require order forms. Dealer can sell narcotics on order forms in original packages only. Persons creating new package or repacking such drugs must register as manufacturer and affix stamps to package. Every individual tube of hypodermic tablets must be stamped, and not box containing such tubes. (Signed)

"ROPER, Commissioner."

It is quite easy to interpret a part of this ruling. It is quite plain that when a physician requires a solution of cocaine or some hypodermic tablets of morphia, he must fill out a blank form, send it to a wholesale house and wait until he gets it. He will have to buy the cocaine and make his own solution. A physician may write a prescription, give it to his patient and the patient can easily get the prescribed narcotics at any licensed drug store. But a physician is not permitted to buy it from the same druggist in any way. The ruling is very plain in regard to this point. A physician must get his narcotics—his cocaine or his morphine—from a wholesaler, but how much must he buy? What is an original package of hypodermic tablets—a box or a tube? At any rate this ruling

will necessarily prompt physicians to keep a much larger supply of narcotics on hand than heretofore.

Judging from recent reports, the anti-narcotic laws do not seem to have been as efficient as had been hoped, nor does the consumption of narcotic drugs seem to have been greatly diminished, and it will no doubt be necessary to draft still more rigid restrictions upon their sale and use. Possibly physicians will be compelled to make photographs and thumb prints and record the Bertillon measurements of those for whom they prescribe narcotics—as was proposed for the physicians in New York. Then, perhaps on account of the increased labor required of the government officials in filing and tabulating these records, the physicians will be required to pay a still higher tax for the privilege of making them.

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Some Surplus

Not many of us realize the immensity of the task which confronted our government when it entered the war, nor do many of us get a fair conception of the great resources this country held. In glancing over a list of surplus property that the government has on hand and is now offering for sale to "recognized preferred sources," we note that there is a surplus stock of 20,928,782 pounds of canned peas. As there is only a surplus of 1,605,942 pounds of canned beans one naturally concludes that beans are more popular with our soldiers than peas. One would hardly believe there were so many peas in the world—they must have gotten most of them. One may also surmise that not all of the cooks were skilled in the fine art of pie making, for there is on hand a surplus of 5,597,918 pounds of canned pumpkin. But of that universal delicacy that so persistently appears on the menu in our state institutions—our penitentiaries, orphan homes, insane hospitals, particularly—prunes—there are 3,000,000 pounds left. How many prunes must there have been in order that 3,000,000 pounds should be left? When one stops to think of the immense quantities that must have been accumulated, from which these items are only a part of the great surplus, he wonders where it all came from.

Of course every stock of food, or clothing, or chemicals, that was accumulated by the government was intended to serve some purpose, but in glancing over the list of surplus chemicals one naturally wonders what it could have been used for. In this list will be found a surplus of 740 tons of ether. Naturally we think of ether only as an anesthetic, and if we calculate that a half pound of ether is sufficient for the average anesthesia, there is enough left over to anesthetize 3,000,000 men. There is an item of 13,509 tons of phenol and one of 199 tons of aqua ammonia. For any of the uses that we as physicians are particularly familiar with, that much phenol and aqua ammonia would supply the demand for the next hundred years.

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Prescribing Alcoholic Liquors.

The new regulations issued on June 30 by the Bureau of Internal Revenue, state that "Physicians may prescribe wines and liquors for internal use or alcohol for external use, but in every such case each prescription shall be in duplicate and both copies be in the physician's hand writing." Not more than one quart shall be prescribed for one person for a given time, and only for patients under the physician's constant supervision. The prescription must give the patients name, his address, the condition or illness for which the prescription is given and the name of the pharmacist to whom it is to be presented.

This, however, does not apply to physicians in Kansas since the dry law does not permit pharmacists to sell alcoholic liquors under any conditions.

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The Kansas Hospital Association will meet in Hutchinson on Friday, October 10. There are considerable possibilities in this association and if all the hospitals in the state would affiliate with it, much could be accomplished for the good of the profes-

sion as well as the people. The work of standardization can be much more easily carried out through such an organization, if it has the support of the hospitals generally.

———R———

Fables for the Kansas Doctor.

By RENNIG ADE.

Once upon a time there lived a Kansas doctor who was known in Wichita and Kansas City, Mo., as E. Z. Mark.

His name was listed as No. 7 on the Oil Prospectus, as No. 12 on the Florida Swamp Company, as No. 14 on the California Pecan Orchard, and as No. 23 on the New Zealand & Alaska Smelter Company. This meant that there were only seven, twelve, fourteen and twenty-three respectively more gullible individuals in the United States of America.

Sometimes he had as much as two hundred dollars ahead in the bank, and he would look hopefully at each stranger who entered his office. Usually he had to wait no longer than two or three days, when two smooth-shaven properous individuals would breeze cheerily in. The following program would follow:

"Is this Dr. Mark? Blink is my name—H. M. Blink of Blink & Stinger of Kansas City. Doctor, shake hands with Mr. Stinger. Mr. Stinger is president of the Gila Lizard Company of Arapahoe, New Mexico. Our plan is to cross the Gila lizard with your native jack-rabbit, thus securing a succulent meat, and combining the prolificacy and fecundity of the rabbit with the native inertia of the lizard. The product of this union should be a valuable food easy of capture. Your name has been handed to us as one we could rely upon to become interested in our proposition. We are permitted to have ten stockholders only in each city of less than one thousand inhabitants. We are also desirous of having you on our board of directors."

The latter argument always sold Doc a small block of the stock. That is, he would buy $300 worth; $200 down, and the company would carry him until fall for the balance at only 8 per cent. The banker, who was a warm friend of Doc's, shaved the note $25 that evening after business hours, and put the stock salesman next to another likely buyer.

Doc worked hard and managed to keep the children in school and let his wife go home every eight years on a visit. He belonged to all the lodges in town except one, the Rebekahs, and kept his dues paid up. Mysterious buttons and insignias stood out all over his person, and he had vowed and promised and sworn not to do any of the things that he had ever had any desire to do. Upon close inspection of his deadbeat patients he usually found them occupying high positions in one of his lodges.

He always figured that some day a dividend would be declared in one of his blue-sky ventures, but this never happened. The best he could ever do was to trade $500 worth of old stock in the Pan-Hysterectomy Motor Co. for $100 worth of stock in a company that was planning to open clothing stores in the Fiji Islands.

One day the Old Man with the Scythe came along, and with one long swing Old Doc was gathered in.

After a decent interval the estate was carefully invoiced. The old car sold for two hundred dollars, and the Liberty Bonds only had to be discounted 8 per cent. Fortunately there was only $200 worth of the latter, so the loss was not great. The Automatic Typewriter & Harvester Company stock that had cost Doc five dollars per share was quoted at 11 cents and no buyers. The rest of his stocks were not quoted. With the little insurance, Mother managed to pay off the debts and make a respectable showing at the funeral. The obsequies were conducted by representatives of two or three lodges who read their parts and hurried through on account of the ball game which was to start promptly at two-thirty.

The consensus of opinion of the neighborhood was summed up in these words: "Doc was a good fellow but a damned fool."

Moral—If you would be properly invoiced, get out of the way.

BOOKS

The Higher Aspect of Nursing

By Gertrude Harding. 12-mo of 310 pages. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $2 net.

The author believes that "No woman has a moral right to enter the nursing profession with purely selfish motives. There is a higher aspect of the profession which seems to have eluded many of those who enter upon it." The author warns the nurse in training against the evil influence of the physicians she comes in contact with and implies that the particular frankness with which the anatomy of patients is discussed is immodest and tends to lower the dignity of the nurses who permit it.

Training School Methods for Institutional Nurses

By Charlotte A. Aikens, formerly director of Sibley Memorial Hospital, Washington, D. C.; formerly superintendent of Iowa Methodist Hospital, Des Moines, and of Columbia Hospital, Pittsburgh; author of "Hospital Management," "Studies in Ethics for Nurses," etc. 12-mo of 337 pages. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $2.25 net.

This text is prepared as a sort of guide for head nurses and instructors of nurses. It contains a good many valuable suggestions for the selection of good subjects for training and for the best methods to be adopted in teaching.

The whole training school system needs considerable revision and suggestions such as have been made by the author will, no doubt, receive proper consideration in the final standardization of the hospitals and hospital training schools.

An Outline of Genito-Urinary Surgery

By George Gilbert Smith, M.D., F.A.C.S., genito-urinary surgeon to out-patients, Massachusetts General Hospital. 12-mo of 301 pages with 71 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $2.75 net.

This is a very concise yet quite complete little work. Nothing of practical value seems to have been omitted. The procedures that are mentioned are those which the author has found most efficient in his own practice. The illustrations are excellent for so small a work and add very materially to its value.

The Medical Clinics of North America

Volume II, Number 4 (the New York number, January, 1919). Octavo of 303 pages with 60 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Published bi-monthly. Price per year, paper, $10; cloth, $14.

In the March number of the Medical Clinics of North America the clinic of Henry A. Christian takes first place, and he shows cases of cutaneous pigmentation with jaundice, palpable liver and spleen and ascites; and a case of fibrinous bronchitis. John Lovett Morse has a clinic on infantile scurvy. Dr. Wm. A. Graves presents a case of cancer of the uterine body. Dr. George R. Minot presents four very interesting cases of enlarged spleen. Dr. F. W. White has an article on "Improvement on the Medical Treatment of Chronic Ulcer of the Stomach and Duodenum." He at least seems to be fully impressed with the possibilities in medical treatment and says: "Medical treatment, properly used and with the new and more exact methods we now have for diagnosis and observation, will cure more chronic ulcers than surgery." He gives a detailed outline of his treatment.

There are many other very instructive articles in this number of the Clinics.

—R—

Typhus Menacing World

War on typhus with a view to preventing the spread of the dread malady from Poland, where 100,000 persons are down with the disease, to other countries of eastern and southeastern Europe is planned by the League of Red Cross Societies of the World, the first health work on behalf of humanity which the organization, formed only three weeks ago, has set out to perform. News of anti-typhus plan, which is the result of a series of conferences between the Supreme Economic Council and Lieut, Gen. Sir David Henderson, director general of the League of Red Cross Societies, reached American Red Cross Headquarters last week.

Reports from Poland show that thousands have died from lack of medical care and that conditions in Hungary and other parts of eastern Europe, due to the ap-

pearance of typhus, are such as to constitute a menance to the rest of the world. Surveys made on behalf of the Supreme Economic Council show that the disease is spreading rapidly and that it will take a vigorous campaign to check it before cold weather sets in. Added to the menace of typhus is the danger of a cholera epidemic in these countries, the peoples of which are still suffering from the shock of war and undernourishment.

The Supreme Economic Council has appointed a committee of British, French and Italian representatives to confer with representatives of the League of Red Cross Societies, the object of this conference being the preparation of plans that will be submitted to the governments of the countries of eastern Europe. The necessity for immediate action will be presented to these governments. For its own part the League of Red Cross Societies has addressed an appeal to its founder members, the Red Cross organizations of the United States, Great Britain, France Italy and Japan, and to the Red Cross organizations of twenty-four other countries who have been invited to join the League, to hold themselves in readiness to participate in the campaign against typhus.

The division of duties between the League and the Supreme Economic Council has been arranged, it being agreed that the latter organization will place at the disposal of the League all the surplus medical and hospital supplies belonging to British and American armies and insure trasportation of the same while the League will supply and maintain the personnel for the administration of the relief measures. The League of Red Cross Societies will also provide the best medical service and advice obtainable. In this connection the League will be in a position to use, immediately the anti-typhus plan receives governmental approval, the methods for combating typhus disclosed during the recent important conference at Cannes, where the world's leading physicians and public health experts were assembled.

In connection with the proposed campaign against typhus, Lieut. Gen. Henderson, director general of the League said:

"If the Red Cross League is charged with the serious responsibility of protecting public health in this crisis, the people of the various nations must realize that the fight is their own and that the League is acting as their instrument.

"The League will be put to the severest test at the very beginning of its existence. We believe that with the aid of governments, and with the aid of voluntary national societies supported by the people, we can control and limit the spread of this epidemic so that Europe will be saved from disaster that would sure follow the spread of the disease. The situation in eastern and southern Europe is too serious to be coped with by any single government or by any voluntary society. The Red Cross League affords medium through which governments and voluntary societies can co-operate and by means of which efforts may be co-ordinated.

"The League has at its disposal the assistance of the most expert medical advisors, trained by practical experience in combatting typhus. It has already the help of the trained personnel of the American and the British Red Cross, both of which societies already have units in the field, and it can call for aid upon other Red Cross societies that are members of the League. It will be able to utilize under expert direction, certain medical and other supplies now in Europe owned by the Allied governments and national voluntary societies. With these means at its disposal the League is prepared to undertake the strategical direction of the campaign.

"This emergency has come upon the League at the outset while it is still in process of organization, but the League has not felt that it should avoid responsibility. If the League is requested to undertake this work by the respective governments it will offer an opportunity to the people to show through their National Red Cross Societies their practical interest in common welfare. The future will depend upon the response made to that appeal.

The League has no though of over-riding national societies, on the contrary, it seeks to co-operate with them and to develop and stimulate them.

"The actual menace of typhus and cholera gives immediate opportunity to people to unite in performance of this urgent service for the world.

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Principal Causes of Death

The Census Bureau's annual compilation of mortality statistics for the death-registration area in continental United States shows 1,068,932 deaths as having occurred in that area in 1917, representing a rate of 14.2 per 1,000 of population. Of these deaths, nearly one-third were due to three causes—heart diseases, pneumonia, and tuberculosis— and nearly another third resulted from the following nine causes: Bright's disease and nephritis, apoplexy, cancer, diarrhea and enteritis, arterial diseases, influenza, diabetes, diptheria, and bronchitis. The death-registration area of the United States in 1917 comprised 27 states, the District of Columbia, and 43 cities in nonregistration states, with a total estimated population of 75,000,000, or about 73 per cent of the estimated population of the United States. (The territory of Hawaii has recently been added to the registration area, but the figures given in this summary relate only to continental United States.)

The deaths from heart diseases (organic diseases of the heart and endocarditis) numbered 115,337, or 153.2 per 100,000 population. The death rate from this cause shows a noticeable decrease as compared with 1916, when it was 159.4 per 100,000. There have been fluctuations from year to year, but in general there has been a marked increase since 1900, the earliest year for which the annual mortality statistics were published, when the rate for heart diseases was only 123.1 per 100,000.

Pneumonia (including bronchopneumonia) was responsible for 112,821 deaths, or 149.8 per 100,000. This rate, although much lower than that for 1900 (180.5) or for several succeeding years, is higher than that for any year during the period 1908-1916. The lowest recorded rate for pneumonia was 127 per 100,000 in 1914. The mortality from this disease has fluctuated considerably from year to year since 1900, the general tendency having been downward until 1914 and upward from 1914 to 1917.

Tuberculosis in its various forms caused 110,285 deaths, of which 97,047 were due to tuberculosis of the lungs. The death rate from all forms of tuberculosis was 146.4 per 100,000, and from tuberculosis of the lungs, 128.9. The rate from tuberculosis of all forms declined continously from 200.7 per 100,000 in 1904 to 141.6 per 100,000 in 1916, the decrease amounting to nearly 30 per cent; but for 1917 an increase is shown. Until 1912 more deaths were due to tuberculosis than to any other single cause, but in that year and during the period 1914-1917 the mortality from tuberculosis was less than that from heart diseases, and in 1917 it fell below that from pneumonia also.

Bright's disease and acute nephritis caused 80,912 deaths, or 107.4 per 100,000. The mortality rate from these diseases has increased from 89 per 100,000 in 1900, with some fluctuations from year to year, and since 1914 the increase has been continuous.

Apoplexy was the cause of 62,431 deaths, or 82.9 per 100,000. The rate from this disease increased gradually, with occasional declines, from 1900 to 1912, and since 1913 the increase has been continuous.

Cancer and other malignant tumors caused 61,452 deaths, of which number 23,413, or 38 per cent, resulted from cancer of the stomach and liver. The rate from cancer has risen from 63 per 100,000 in 1900 to 81.6 in 1917. The increase has not been continuous, there having been three years—1906, 1911, and 1917— which showed declines as compared with the years immediately preceding. The decrease in 1917 as compared with 1916, however, was very slight—from 81.8 to 81.6. It

should be borne in mind that at least a part of the increase in the death rate from cancer may be apparent rather than real, being due to a greater degree of accuracy in diagnosis and to greater care on the part of physicians in making reports to registration officials.

Diarrhea and enteritis caused 59,504 deaths, or 79 per 100,000. The rate from this cause has fallen somewhat in recent years, having been 90.2 in 1913, and is much lower than the corresponding rate for 1900, which was 133.2. More than four-fifths of the total deaths charged to these causes in 1917 were of infants under two years of age.

Arterial diseases of various kinds—atheroma, aneurism, etc.—resulted in 19,055 deaths, or 25.3 per 100,000. The rate from these causes increased continuously from 6.1 in 1900 to 25.6 in 1912, since which year it has fluctuated somewhat without showing any pronounced change.

Influenza was responsible for 12,974 deaths, or 17.2 per 100,000. This rate is the highest shown for any epidemic disease in 1917, but is much lower than the corresponding one for the preceding year, 26.4 per 100,000. The influenza rate, which fluctuates greatly, was higher in 1901, when it stood at 32.2, than in any subsequent year prior to the occurrence of the recent epidemic.

Deaths from diabetes numbered 12,750, or 16.9 per 100,000. The rate from this disease, although slightly lower than in 1916, has risen almost continuously since 1900, when it was 9.7.

Next to that for influenza, the highest rate appearing for any epidemic disease in 1917 was for diphtheria, 16.5 per 100,000, representing 12,453 deaths. The rate from this disease was somewhat higher in 1917 than in the preceding year, when it stood at 14.5 per 100.000.

Bronchitis caused 12,311 deaths, or 16.3 per 100.000. This rate is lower than that for any preceding year except 1916, when it was 16.2. The proportional decline from 1900, for which year the bronchitis rate was 45.7, to 1917, amounting to 64 per cent, was greater than that shown for any other important cause of death.

Typhoid Fever.

Typhoid fever resulted in 10,113 deaths, or 13.4 per 100,000. The mortality rate from this cause also has shown a remarkable reduction since 1900, when it was 35.9, the proportional decrease amounting to 63 per cent. This highly gratifying decline demonstrates in a striking manner the efficacy of improved sanitation and of the modern method of prevention—the use of the antityphoid vaccine.

Measles, Whooping Cough, and Scarlet Fever.

These three children's diseases were together responsible for 21,723 deaths of both adults and children, or 28.8 per 100,000. The rates for the three diseases separately were 14.3, 10.4, and 4.2, respectively, as compared with 11.1, 10.2, and 3.3 in 1916. As in 1913 and 1916, the deaths due to measles outnumbered those resulting from either of the other diseases, but in 1914 and 1915 whooping cough caused the greatest mortality. In every year since and including 1910, as well as in several preceding years, measles has caused a greater number of deaths than scarlet fever.

External couses.

Deaths due to external causes of all kinds—accidental, suicidal, and homicidal—numbered 81,953 in 1917, corresponding to a rate of 108.8 per 100,000 population.

The greatest number of deaths charged to any one accidental cause—11,114, or 14.8 per 100,000—is shown for falls. The rate for this cause varies but slightly from year to year.

Next to falls, the greatest number of accidental deaths—8,649, or 11.5 per 100,000, resulted from railroad accidents and injuries. This rate is greater than the corresponding rates for 1914, 1915, and 1916 (10.7, 9.9, and 11.3, respectively) but is lower than that for any year from 1906, the first year for which deaths from this cause were reported separately, to 1913, inclusive.

Burns—excluding those received in con-

flagrations and in railroad, streetcar, and automobile accidents—were responsible for 6,830 deaths, or 9.1 per 100,000. The death rate from burns was greater than that for the preceding year, 8 per 100,000, and was also greater than the rate for any earlier year covered by the Bureau's records, with the exception of 1907.

Deaths from automobile accidents and injuries in 1917 totaled 6,724, or 8.9 per 100,000 population. This rate has arisen rapidly from year to year, but not so rapidly as the rate of increase in the number of automobiles in use.

Accidental drowning caused 5,550 deaths, or 7.4 per 100,000. This rate is considerably less than that for any preceding year since 1910, and is also decidedly below the average for the decade 1901-1910.

Deaths due to accidental asphyxiation (except in conflagrations) numbered 3,375, or 4.5 per 100,000. This rate is somewhat higher than that for any year during the preceding ten-year period.

Mine accidents and injuries resulted in 2,623 deaths, or 3.5 per 100,000. This rate is greater than the rates for the preceding three years and for 1912, but is lower than those for other recent years.

Deaths due to injuries by vehicles other than railroad cars, street cars, and automobiles numbered 2,326, or 3.1 per 100,000. The rate from this cause has declined somewhat during the past ten years, probably because of the decrease in the use of horse-drawn vehicles.

Deaths resulting from street-car accidents numbered 2,277, corresponding to a rate of 3 per 100,000. This rate is greater than those for the two years preceding and is the same as that for 1912, but is less than the rates for other recent years.

Machinery accidents caused 2,112 deaths or 2.8 per 100,000, a rate materially greater than that for any preceding year covered by the Bureau's mortality records.

Hot weather caused 1,964 deaths, or 2.6 per 100,000. This rate is considerably above those for most of the years covered by the Bureau's records, but is somewhat lower than 2.9 in 1916 and is far below 5.3 in 1911. The rate from this cause nautrally varies greatly from year to year.

The number of suicides reported for 1917 was 10,056, or 13.4 per 100,000. This rate is the lowest shown for any year since 1903.

Other deaths due to external causes, including homicides, totaled 18,353, or 24.4 per 100,000.

The following table shows, for the death-registration area in continental United States in 1917, the total number of deaths and the death rate, by leading causes, together with the percentage which each cause contributed to the total:

Cause	Number	Rate per 100,000 Population	Per Cent of Total
All causes	**1,068,932**	**1,419.4**	**100.0**
Organic diseases of heart	115,337	153.2	10.8
Pneumonia (all forms)	112,821	149 8	10.5
Tuberculosis (all forms)	**110,285**	**146.4**	**10.3**
Tuberculosis of lungs	97,047	128.9	9.1
Tuberculous meningitis	6,092	8.1	0.6
Other forms of tuberculosis	7.146	9.5	0.7
External causes	**81,953**	**108.8**	**7.7**
Accidental falls	11,114	14.8	1.0
Suicide	10,056	13.4	0.9
Railroad accidents and injuries	8,649	11.5	0.8
Burns (excluding those due to conflagrations)	6,830	9.1	0.6
Automobile accidents and injuries	6,724	8.9	0.6
Homicide	5,781	7.7	0.5
Accidental drowning	5,550	7.4	0.5
Accidental absorption of deleterious gases, except in conflagrations	3,375	4.5	0.3
Mine accidents and injuries	2,623	3.5	0.2
Injuries by vehicles other than railroad cars, street cars and automobiles	2,326	3.1	0.2
Street car accidents and injuries	2,277	3.0	0.2
Machinery accidents and juries	2,112	2.8	0.2
Effects of heat (other than burns)	1,964	2.6	0.2
Other external causes	12,572	16.7	1.2
Acute nephritis and Bright's disease	80,912	107.4	7.6
Cerebral hemorrhage (apoplexy)	62,431	82.9	5.9
Cancer	61,452	81.6	5.8
Diarrhea and enteritis	59,504	79.0	5.6
Congenital debility and malformations	56,973	75.7	5.3
Arterial diseases—atheroma, aneurism, etc.	19,055	25.3	1.8
Influenza	12,974	17.2	1.2
Diabetes	12,750	16.9	1.2
Diphtheria	12,453	16.5	1.1
Bronchitis	12,311	16.3	1.1
Measles	10,745	14.3	1.0

Typhoid fever	10,113	13.4	0.9
Appendicitis and typhilitis.	9,429	12.5	0.9
Respiratory diseases other than pneumonia and bronchitis.	9,238	12.3	0.9
Hernia and intestinal obstructions.	8,677	11.5	0.8
Cirrhosis of the liver	8,569	11.4	0.8
Whooping cough	7,837	10.4	0.7
Puerperal affections other than puerperal septicemia.	7,317	9.7	0.7
Meningitis.	6,890	9.1	0.6
Puerperal septicemia	5,211	6.9	0.5
Rheumatism.	4,456	5.9	0.4
Scarlet fever	3,141	4.2	0.3
Erysipelas.	2,866	3.8	0.3
Malaria.	2,387	3.2	0.2
All other defined causes...	147,235	195.5	13.8
Unknown or ill defined causes.	13,610	18.1	1.3

Articles Relating to the New Status of Venereal Diseases in Medical Schools, Laboratories, Clinics and Hospitals

Asst. Surgeon Gen. C. C. Pierce, U. S. Public Health Service: "The Nation-Wide Control of Venereal Diseases." Southern Medical Journal, Birmingham, Ala., March, 1919, p. 130.

Asst. Surgeon Gen. C. C. Pierce, U. S. Public Health Service, and Major W. A. Sawyer, Medical Corps, U. S. Army: "Venereal Disease Control in the Military Forces and Civilian Communities." American Journal of Public Health, Boston, May, 1919.

Sir W. Osler: "The Campaign Against Syphilis." Lancet, London, 1917, i. 1787-1792.

O. S. Warthin: "The New Pathology of Syphilis." American Journal of Syphilis, St. Louis, 1918, ii. 425-452.

T. W. Murrell, "Responsibility of the Physician to the Syphilitic and Through Him to the State." Virginia Mag. Monthly, Richmond, Va., 1918-19, xiv. 129-132.

Leredde & Rubinstein: "Prophylaxe Medicale de la Syphilis: l'organization des Laboratories; necessite d 'un Enseigement Technique." Paris, Med. 1917, XIX, 153-155.

J. H. Stokes: "The In-Patient Hospital in the Control and Study of Syphilis." New York, 1916, Social Hygiene, Baltimore, 1916, II, 207-231, Reprint.

L. W. Hamson: "The Education of Students in Venereal Diseases." Edinburgh, M. J. 1918. N. A. XXI. 138,145.

William Allen Pusey: "The Sanitary Attack Upon Syphilis." American Journal of Syphilis, St. Louis, January, 1917, page 125.

H. H. Hazen: "The Teaching of Syphilis." American Journal of Syphilis, St. Louis, January, 1917, page 135.

Charles J. White: "The Place of Syphilis in Our Medical Schools and Hospitals." American Journal of Syphilis, St. Louis, January, 1917, page 144.

Lewellys F. Barker: "The Importance of a Knowledge of Syphilis, and Especially of Visceral Syphilis for General Medical Diagnosis." American Journal of Syphilis, St. Louis, January, 1917, page 149.

John A. Fordyce: "The Teaching of Syphilis." The Journal of Cutaneous Diseases, Chicago, November, 1917, page 717.

C. Morton Smith: "The Teaching of Syphilis in School and Hospital." The Journal of Cutaneous Diseases, Chicago, November, 1917, page 726.

Walter James Heimann: "The Teaching of Syphilis in Undergraduate Schools." The Journal of Cutaneous Diseases, November, 1917, page 732.

Symposium on "Teaching of Syphilis," the Journal of Cutaneous Diseases, Chicago, November, 1917, page 741. Discussion by Dr. H. H. Hazen, Washington, D. C.; Dr. Harry G. Irvine, Minneapolis; Dr. A. Ravogli, Cincinnati, Ohio; Dr. Frank Edward Simpson, Chicago; Dr. Thomas W. Murrell, Richmond, Va.; Dr. Jay Frank Schamberg, Philadelphia; Dr. Harold N. Cole, Cleveland, Ohio; Dr. James Herbert Mitchell, Chicago; Dr. Isadore Rosen, New York City; Dr. Franklin W. Cregor, Indianapolis; Dr. John H. Stokes, Rochester, Minn.; Dr. Boleslaw Lapowski, New York City; Dr. John A. Fordyce, New York City; Dr. C. Morton Smith, Boston, Mass.; Dr. Walter J. Heinmann, New York City.

Publications by the United States Public Health Service: (1) "A Manual of Treatment of the Venereal Diseases" (1919). (2) "Instructions to Medical Officers in Charge of State Control of Venereal Diseases, 1918." (Miscellaneous Pub. No. 19.)

The Government's Campaign Against Venereal Diseases

The scope of the campaign which the Government is making in the effort to eradicate venereal diseases is best shown by the following extracts taken from a communication received from the Surgeon General of the United States Public Health Service.

When the Chamberlain-Kahn Act created the Division of Venereal Diseases in the United States Public Health Service and the great work of venereal disease control was inaugurated, the plan of procedure formulated was grouped under three headings, as follows:"

1. Medical measures.
2. Law-enforcement measures.
3. Educational measures.

"The educational measures includes the dissemination of information by leaflets, lectures, exhibits, moving pictures, stereopticon views, and other means, among industrial plants, commercial institutions, clubs, libraries, community centers, schools, churches, the home, and every walk of life.

"The law-enforcement measures include encouragement of the closing of restricted districts; stimulating enforcement by state and municipal officials of laws and ordinances directed against prostitution in all its phases, the establishment and management of institutions for the rehabilitation of venereally infected persons, and the commitment to institutions of venere-

ally infected feeble-minded persons; urging the adoption and enforcement of laws and ordinances compelling the reporting of the venereal diseases, the prohibiting of quack advertising, and the sale of venereal disease nostrums; and other measures designed to prevent the spread of the venereal diseases.

"The medical measures include the establishing of clinics; securing hospital facilities for venereally infected persons; making available laboratory facilities for the scientific diagnosis of venereal diseases; securing wide distribution of arsphenamine or similar products; obtaining the support of the entire medical profession by the reporting of their cases to the State Board of Health and the treating of venereally infected persons, in accordance with the best modern methods; securing the co-operation of druggists in refusing to dispense venereal nostrums and directing prospective purchasers of such remedies to venereal disease clinics, or reputable physicians; securing the co-operation of dentists and nurses in their respective fields of practice; and enlisting the interest and services of all medical, dental, and pharmaceutical schools, societies, and journals.

"Under Medical measures, the campaign was begun with the advertising media of the country. The 20,000 newspapers and magazines carrying advertising were appealed to for co-operation, with the result that up to the present, according to agreement cards received, and clippings made, approximately 140 only, or less than one per cent, are still carrying obnoxious advertising. In other words, more than 99 per cent of the newspapers and magazines in the United States carrying advertising are co-operating.

"The next step in the campaign was directed to the druggists of the country. Out of the 48,500 appealed to, results up to the present, by return agreement card, show the co-operation of approximately 28,000, or nearly 60 per cent.

"After the druggists, the 131,780 legally recognized physicians in the United States were appealed to, with the result that agreement cards of co-operation have been received up to the present time, from approximately 60,000, or nearly 50 per cent.

"The campaign with the dental profession is just being launched; the campaign with the nursing profession and the training schools for nurses, is under way.

"The campaign with the professional schools, hospitals, medical, dental, and pharmaceutical societies and associations—national, interstate, state, county, and municipal—has just been begun by a letter addressed to the deans of the medical and allied colleges of the country."

The following is a copy of the letter referred to:

Sir: The campaign for the control of venereal diseases in the United States by the Public Health Service makes it necessary for the medical, dental, and pharmaceutical schools, the hospitals, clinics, and the training schools for nurses, to co-operate to the utmost.

How may this be accomplished?

1. By calling a convocation of faculty, staff, and student body, at which:

(A) The dean will preside, state the object of the meeting, (viz., to indorse the propaganda undertaken by the U. S. Public Health Service, by direction, and under the authority, of Congress) and to appoint proper committees to put into effect the recommendations made by the chosen speakers, as to changes in curricula, etc.

(B) Selected speakers will deliver addresses on:

1. The sanitary attack upon the venereal diseases.

2. The better teaching of venereal diseases in schools, clinics, and hospitals.

3. The place of venereal diseases in our medical, dental and pharmaceutical schools, in our hospitals, in our clinics, and in our training schools for nurses.

4. The importance of a proper knowledge of venereal diseases, not only to physicians, but also to dentists, druggists, and nurses; further, to college physical directors.

II. By giving exhibitions to faculty,

staff, students, and nurses, of the official Public Health Service educational six-reel photo-drama films:

(a) "Fit to Win" for men, which will be furnished free on application to your State Board of Health, or to this Bureau.

(b) "The End of the Road" for girls and women, which will be furnished free on application to the Boards of Health in the states of Connecticut, Illinois, Louisiana, and Virginia, or which may be had under pay arrangement from Mr. Isaac Silverman, Room 211, 1493 Broadway, New Yory City.

III. By arranging meetings to be addressed by:

(a) The president of the State Board of Health on the activities within the state, either by the state alone, or by the state in co-operation with the Public Health Service; the subjects explained being medical (the establishing of clinics,) educational, legislative, social, law-enforcement.

(b) By the local, municipal, of county health officer, who will detail the local activities on the same subjects.

(c) By the Public Health Service representative appointed to your state to work in co-operation with your State Board of Health, who will speak on the same activities, especially the establishment, organization, and general policy of the free clinics for the treatment of venereal diseases.

(d) By the U. S. Public Health Surgeons in charge of the clinics already established in your state, who will explain about location, staff, equipment, laboratory, treatment, records, etc.

IV. By complete, permanent exhibits of official literature issued by:

(A) The U. S. Public Health Service:

1. Medical: reprints from U. S. Public Health Reports.

2. Educational: miscellaneous publications issued by the Division of Venereal Diseases.

Public Health Service literature will be furnished free for distribution to faculty, staff, student body, and nurses, on individual application to the Surgeon General, indicating list and quantity desired.

(B) State Boards of Health:

These publications are generally miscellaneous and may be had free on application to the State Board. Some states issue a weekly or monthly bulletin.

The campaign among the medical, dental, pharmaceutical schools, hospitals, and training schools for nurses having been recently launched in Washington, and all the universities, both white and colored, in the District of Columbia having already adopted the program, for your guidance in the plan outlined above, there is inclosed herewith the report of the proceedings of the Georgetown University convocation, including the recommendations made by Dean George M. Kober, of the Department of Medicine.

There is also inclosed herewith a list of articles which were published in the various leading dermatological and syphilogical journals of the United States within the last two years, upon the subjects mentioned above, to facilitate the short addresses.

A set of official literature consisting of (1) reprints from the "Public Health Reports," (weekly bulletin of the Public Health Service,) and (2) miscellaneous publications issued by the Division of Venereal Diseases, is being mailed under separate cover.

In view of the foregoing exposition, what co-operation may the Public Health Service expect from your institution?

Your early reply with any suggestions you wish to make will be awaited with interest.

Respectfully,

RUPERT BLUE,
Surgeon General.

Birth Statistics

In the birth-registration area of the United States 1,353,792 infants were born alive in 1917, representing a birth rate of 24.6 per thousand of population. The total number of deaths in the same area was 776,222, or 14.1 per thousand. The births exceeded the deaths by 74.4 per cent. For every state in the registration

area, for practically all the cities and for nearly all the counties, the births exceeded the deaths, in most cases by considerable proportions. The mortality rate for infants under one year of age averaged 93.8 per thousand living births. The foregoing are among the facts brought out by the Census Bureau's annual compilation of birth statistics.

The birth-registration area, established in 1915, has grown rapidly. It comprised, in 1917, the six New England states, Indiana, Kansas, Kentucky, Maryland, Michigan, Minnesota, New York, North Carolina, Ohio, Pennsylvania, Utah, Virginia, Washington, Wisconsin, and the District of Columbia, and had an estimated population of 55,000,000, or about 53 per cent of the estimated total population of the United States in that year.

The birth rate for the entire birth-registration area fell below that for 1916 by two-tenths of one per thousand population; but the death rate was less by six-tenths of one per thousand than in 1916. Thus the excess of the birth rate over the death rate for 1917, which amounted to 10.5 per thousand, was somewhat greater than the corresponding excess for 1916, 10.1 per thousand, although it fell slightly below that for 1915, 10.9 per thousand. If the birth and death rates prevailing in any one of these three years were to remain unchanged, and if no migration were to take place to or from the area to which they relate, its population would increase at the rate of slightly more than 1 per cent per annum, or a little more than 10 per cent in a decade. This would be about half the rate — 21 per cent — by which the entire population of the United States increased between 1900 and 1910.

Of the total number of births reported, 1,280,288, or 24.5 per thousand, were of white infants, and 73,504, or 25.8 per thousand, were of colored infants. The death rates for the two elements of the population were 13.7 and 22.5 per thousand, respectively.

The infant mortality rate—that is, the number of deaths of infants under one year of age per thousand born alive—throughout the birth-registration area as a whole was 93.8 in 1917, as against 101 in 1916 and 100 in 1915. This is equivalent to saying that in 1915 and 1916, of every ten infants born alive one died before reaching the age of one year, whereas in 1917 the corresponding ratio was a trifle more than one in eleven. Among the twenty states these rates ranged from 67.4 for Minnesota to 119.9 for Maryland; and for the white population separately the lowest and the highest rates were 66.3 for Washington and 109.5 for New Hampshire.

The infant mortality rates vary greatly for the two sexes and for the various nationalities. The rate for male infants in 1917, 103.7 per thousand living births, was nearly 25 per cent greater than that for female infants, which was only 83.3. When the comparison is made on the basis of race or nationality of mother a minimum of 66.2 per thousand births is shown for infants with mothers born in Denmark, Norway, and Sweden, and a maximum of 172.6 for infants with mothers born in Poland, while for negro children the rate was 148.6.

The reports from the registration area show the birth of 14,394 pairs of twins and 155 sets of triplets in 1917—in all, 29,253 infants, or a little more than 2 per cent of the total number born.

The reports for 1,241,722 of the births occurring in 1917 contained information as to number of child in order of birth. Of these reports, 339,042 were for the first child born to the mother, 264,044 for the second child, 191,528 for the third, 134,331 for the fourth, and 95,931 for the fifth. In the remaining 216,846 cases, or 17.5 per cent of the entire number for which information upon this point was obtained, the total number of children borne by the mother was six or more; in 37,914 cases it was ten or more; in 1,600 cases, fifteen or more; in fifty-six cases, twenty or more; and in one case, that of a colored woman, the birth of a twenty-fifth child was reported.

The total number of children borne by the mothers who gave birth to these 1,241,722 infants in 1917, in whose cases data were available as to previous births, was 4,093,908. The reports for 1,194,621 of the births occurring in 1917 contained information as to the entire number of children borne by the mothers and still living, and gave a total of 3,443,466, or an average of nearly three living children in each family in which a birth took place in 1917.

A Normal Shoe for a Normal Foot

Can the shoemaker build a shoe that will keep normal a normal foot? And having built it will the public be brought to see the beauty of the product? Not so many years ago we gave our admiration to the small, tightly laced waist. Today we laugh at it and tomorrow we shall be equally amused by the pencil-point toes and high heels that tilt the human foot to the angle of a horse's hoof. The war made low heels beautiful on Fifth Avenue, and consequently on Main Street; if it had lasted a little longer, women would, of necessity, have gone the whole way with the shoe problem. The shoes of the future will not be "prescription" shoes, they will not cater to deformities, but they will be built to conform to the normal lines of the foot.

The national board of the Young Women's Christian Associations through the health division of the Bureau of Social Education has started a drive to get this shoe for American women and to popularize it. The associations have all the health arguments. They have a national membership of four hundred thousand women to listen to them, but they cannot get this shoe without the co-operation of the manufacturers and dealers who make the shoes and determine the styles. To bring about this co-operation, a conference with leading shoe men was held recently at the National Board Y. W. C. A. headquarters in New York.

The manufacturers have a difficult problem, but not an impossible one. They must produce a low shoe, with a low heel and a flexible shank that will allow enough exercise of the muscles of the arch to keep them strong, a shoe with enough room for the toes and a straight inner border because the foot is naturally straight on the inner side. They must make the shoe attractive to the discriminating taste by using their knowledge of leathers to procure variety and fineness of finish for both day and evening wear. Will the shoemaker do it? When he does, the national board of the Young Women's Christian Association will be back of him. Every woman who wants to wear the "normal line" shoe must be able to get it. All samples of shoes will be examined, an alphabetical list made, according to states and cities, of all the firms that carry these shoes.

This list will then be sent to local associations all over the United States, so that no one can say, "We would like to get these shoes, but we do not know where to find them."

United States Pharmacopoeial Convention of 1920

Article VIII, Chapter I of the By-Laws of the United States Pharmacopoeial Convention provides that the president "shall issue, on or about the first of May of the year immediately preceding that of the decennial meeting, a notice inviting the several bodies, entitled under the constitution to representation therein, to send delegates to the next meeting. He shall repeat the notification, eight months later, and shall request the medical and pharmaceutical journals of the United States to publish the call for said meeting."

Article II of the constitution provides: "The members of the United States Pharmacopœial convention, in addition to the incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated medical colleges, the medical schools connected with incorporated colleges and universities; incorporated colleges of pharmacy, and pharmaceutical schools connected with in-

corporated universities; incorporated state medical associations; incorporated state pharmaceutical associations; the American Medical Association, and the American Chemical Society; provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation."

Section II of the constitution provides: "Delegates appointed by the surgeon-general of the United States army, the surgeon-general of the United States navy, and the surgeon-general of the United States marine-hospital service, the secretary of agriculture, the secretary of commerce and labor, the Association of Official Agricultural Chemists, the Association of State and National Food and Dairy Departments, the National Wholesale Druggists' Association, and the National Dental Association, and by the organizations not hereinbefore named which were admitted to representation in the convention of 1900, shall also be members of the corporation. Each body and each branch of the United States government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the by-laws."

In the discharge of the above required duties I hereby ask all competent and designated bodies and authorities to name and issue credentials to the fixed number of delegates to the tenth decennial convention to meet in Washington, D. C., on the second Tuesday of May, 1920, at 10 o'clock a. m., at a hall to be designated hereafter. The appointed delegates are requested to promptly forward their credentials to Noble P. Barnes, M.D., the Arlington Hotel, Washington, D. C., assistant secretary of the convention, who will file them for consideration of the committee on credentials which will be appointed by the president not later than March 1, 1920, according to the requirements of Chapter VII, Article I of the by-laws.

Done at Washington, D. C., May 5, 1919.

HARVEY W. WILEY,
President of United States Pharmacopoeial Convention.

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Chronic Morphinism

A. G. DuMetz, Washington, D. C. (Journal A. M. A., April 12, 1919), reviews the literature of the attempts to account for the increased tolerance shown by chronic morphin addicts. He finds that the oxydimorphin theory of Marme and others is untenable, as has been shown by other observers. The Faust theory that the body becomes enabled to destroy morphin to a greater extent after continued usage, which theory has received some acceptance, is not conclusive, although that morphin is destroyed in the body to a certain extent there is no doubt. There is considerable evidence that it is destroyed in increasingly large amounts during the course of the tolerance. It does not necessarily follow that this is the cause of the tolerance acquired, for it may be only a concomitant phenomenon, as Cloetta holds, who attributes it to an increased power of resistance of the protoplasm to the action of morphin. The question seems to have been settled by Rubsamen in 1908, who found that rats that had been immunized to large amounts of the drug until they could stand double the lethal dose showed at a given moment the presence in their bodies of sufficient morphin to produce toxic effects in animals unaccustomed to the drug. He therefore advanced the theory that in addition to the increased power to destroy morphin the tissue cells became less sensitive to the drug. This theory has been accepted in principle by Van Egmond and Van Dongen. An entirely different explanation has resulted from the work of other experimenters. Gioffredi found that serum from tolerant dogs protected kittens against the fatal effects of from two to two and one-

half times the minimum lethal dose, and therefore that an antitoxic substance is formed in the blood. Other ideas have been advanced, more or less supported by experimental evidence, but the results obtained are more or less contradictory, though as a whole they leave the impression that there are reasons for the belief in some sort of immunity, possibly of the second order as described by Ehrlich. While the identity of an antomorphin toxic substance has not been established, up to date, it is not in keeping with our theory of immunity to call it an antitoxin. The majority of the theories offer no explanation of the abstinence or withdrawal phenomena to account for which other modifications of the theories have been proposed. All investigators have failed to show the exact nature of the factors that enable the system to tolerate enormous doses or identify the substances that cause the withdrawal prenomena. "The only knowledge of a positive nature that we really have at present concerning these problems is that the different organs and centers of the body acquire tolerance to morphin and heroin to a different degree and with various degrees of readiness; that these drugs as such are excreted in the feces in diminishing amounts during the period of acquiring tolerance; and that there is evidently present in the blood serum of tolerant animals (dogs) during periods of abstinence a substance or substances which, when injected into normal animals of the same species, causes the appearance of smptoms identical with the so-called withdrawal phenomena. Whether or not the disappearance of these drugs from the feces is due to their increased destruction in the organism is still an unsettled question. Attempts to solve this problem through a chemical examination of the excretions have led only to confusion, the literature being replete with contradictory results. Furthermore, it has not been proved that the destruction of morphin in the organism, if it does take place to an increased degree, is a causative factor in the production of tolerance. As stated before, it may be only a concomitant phenomenon."

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Lymphocytes and Cancer

L. D. Bristol, Augusta, Maine (Journal A. M. A., April 12, 1919), offers a theory of the function of the small mononuclears in the blood and their relation to cancer. He describes the development of the blood cells in the embryo, showing that of the white cells the first to appear (about the tenth week of embryonic life) is a cell corresponding to the lymphocyte; and it is only logical that the cell which possibly has to do with growth energy should appear before the polymorphonuclear cell or phagocyte which has to do with the protection of the body against injury. At the time when body growth reaches its maximum, the polymorphonuclears are in the majority, while at the same time the special lymphoid tissues (such as the thymus) which have to do with growth, rapidly atrophy. "It appears, therefore, that the lymphocyte possibly may be described as the male cell of the blood, and that through a process which is as yet not thoroughly understood, it has the power by means of the enzymes of its mass of nuclear material to energize the body cells with which it comes in contact, causing them to grow and divide. It is probable that the lymphocyte, or its energy substance, is under the constant control of an antibody, and that under normal conditions the influence of the lymphocyte and its enzymes is regarded for the exact demands of the body cells and tissues in their regular growth and division or to meet the special requirements of increased local repair at points of injury." It is Bristol's belief that as the controlled lymphocyte may be the potential father of normal body cells, so the uncontrolled lymphocyte may be the potential father of tumor cells. The potential mothers of tumor cells are the epithelial cell, the connective tissue cell, the muscle cell or other tissue cells. The offspring of such unions may be tumor cells, themselves, or cancer, sarcoma and myoma cells. He compares the blood cells

to the defensive forces of a country, the phagocytes constituting the standing army and the lymphocytes the army of reconstruction. Thus cancer may be due to two factors—a local cell stimulus set up by the energy-bearing lymphocytes concentrated by local injury, and a general loss of lymphocytic control due to an acquired or possibly a hereditary lack of antibodies. He gives references to the literature concerning this general view, and says that experiments are being carried on in the laboratory of the Maine Board of Health in order to discover possible means of controlling lymphocytes and cancer. These experiments will be described later in another article.

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Magnesium in Cancer

S. Itami, New York (Journal A. M. A., March 29, 1919), notices a recent article by Dubard recommending the use of magnesium salts for patients after operation for cancer to prevent recurrence, and recalls former similar recommendations. He remarks that it is fortunate that experimental cancer research permits such suggestions to be tried out in the laboratory where animals are available, rather than testing them at the risk of human life. He mentions three types of mouse cancer, two of which are transplantable. One of them (Bashford's 206) often recedes after several weeks' growth. He found that the intravenous injection of magnesium chlorid, even in doses relatively five or eight times as large as that fatal for man, was without effect on this type of mouse cancer, although two or three treatments were given within two or three days. Not only were there no tumors cured in 175 animals, but in one, which was being injected with a view to preventing if possible the recurrence of a spontaneous neoplasm, previously extirpated, a secondary growth appeared about three weeks after the eighth injection, and furthermore a new spontaneous tumor arose during the treatment. The true carcinoma nature of the tumors in all cases was tested microscopically. Since mouse carcinomas are quite comparable to those of men in their behavior, these results would seem to throw doubt on the value of magnesium in the treatment of human neoplasms. In fact, Itami says, the assertion may be ventured that it is useless for such a purpose.

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Varicocele

W. A. Angwin, Philadelphia (Journal A. M. A., March 29, 1919), says that varicocele is a frequent cause of disability in the navy, on account of the complaints of reflex or psychic nature attributable to it. Size alone is not an indication for operation, as it is frequently symptomless, while local pain or psychic disturbances, anxiety or worry over a possible defective genital condition may warrant an operation. The operation is divided by Angwin into six steps: the incision; the bringing of spermatic veins in view without disturbing the vas or its circulation; use of crushing hemostats to the veins; securing the cord with a non-slipping ligature; the further disposal of the cord; closing the superficial tissues, and providing suspension of the testicles. Most operative methods include lifting the cord from its bed which increases the post-operative induration. Induration, itself, should be a rare sequel. The spermatic artery is excised with the spermatic veins without attempting to separate it. He quotes the authority of Bevan as to there existing two sources of blood supply for the testis, namely the spermatic vessels, and the other vessels accompanying the vas, either of which suffices. The article is fully illustrated.

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Lieutenant Commander R. B. H. Gradwohl, Medical Corps, U.S.N.,R.F., has returned from the service and resumed his work as director of the Gradwohl Biological Laboratories and Pasteur Institute of St. Louis. Owing to the efficient organization of the Gradwohl Laboratories, they were not closed during the war period; and now that Dr. Gradwohl has returned, the profession is assured that renewed efforts will be made to assist all those who are in need of laboratory aid.